

R E M A R K S

Claim 1 has been amended to define the glass powder having the $\text{PbO-B}_2\text{O}_3\text{-SiO}_2$ based composition. Claims 5 to 12 have been added to cover the glass powder having the $\text{BaO-ZnO-B}_2\text{O}_3\text{-SiO}_2$. In all claims, the barrier rib material contains a filler powder comprising at least two kinds of silica powder and alumina powder. Consequently, the barrier rib has a high strength and a low dielectric constant.

Nishioka et al, cited, does not disclose the claimed glass powder composition so that claims 1-12 are not obvious from that reference. More specifically as to claims 5-8, the reference fails to disclose BaO , and as to claims 9-12, the reference fails to disclose Bi_2O_3 .

Horiuchi et al, another primary reference, also fails to disclose the claimed glass powder composition. As to claims 5-12, they do not disclose ZnO . Moreover, concerning the filler powder, they do not disclose the combination of α -quartz powder and/or cristobalite powder, quartz glass powder and alumina powder.

Hayakawa et al, a secondary reference, relates to the dielectric material of the plasma display panel, and differs

from the claimed barrier rib material. Furthermore, they do not disclose the combination of α -quartz powder and/or cristobalite powder, quartz glass powder and alumina powder. As to claims 5-8, they do not disclose a $\text{BaO-ZnO-B}_2\text{O}_3\text{-SiO}_2$ $\text{ZnO-Bi}_2\text{O}_3\text{-B}_2\text{O}_3\text{-SiO}_2$ based glass powder composition or, as to claims 9-12, a $\text{ZnO-Bi}_2\text{O}_3\text{-B}_2\text{O}_3\text{-SiO}_2$ based glass powder composition.

Burn, a tertiary reference, and Ogiwara et al, which has been combined with Horiuchi et al, relate to the multi-layer substrate material, which differs from the claimed barrier rib material. Furthermore, they do not disclose the combination of α -quartz powder and/or cristobalite powder, quartz glass powder and alumina powder. As to claims 5-8, they do not disclose a $\text{BaO-ZnO-B}_2\text{O}_3\text{-SiO}_2$ $\text{ZnO-Bi}_2\text{O}_3\text{-B}_2\text{O}_3\text{-SiO}_2$ based glass powder composition or, as to claims 9-12, a $\text{ZnO-Bi}_2\text{O}_3\text{-B}_2\text{O}_3\text{-SiO}_2$ based glass powder composition.

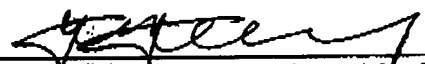
Neither Hayakawa et al, Burn or Ogiwara et al relate to barrier rib material of a plasma display panel, and it would not have been obvious to a person of ordinary skill in the art at the time the present invention was made to combine their teaching with the dielectric PDP material of Horiuchi et al, which differs in the required characteristics, to arrive at applicants' barrier rib material. Such a combination can be based only on hindsight gained from applicants' teaching. But

even when combined, these three references do not make obvious the combination of α -quartz powder and/or cristobalite powder, quartz glass powder and alumina powder in the filler powder.

In view of the above comments, claims 1-12 are believed clearly to be patentable under 35 U.S.C. 103(a) over the art of record, and favorable reconsideration and allowance of the claims are respectfully solicited.

Respectfully submitted,

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Enclosure: Marked-up copy of changes

I hereby certify that this correspondence is sent by telefax to the US PTO, Fax No.: 703-872-9310 on December 16, 2002.


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Marked-up copy of changes:

1 (amended). A barrier rib material containing a glass powder and a filler powder for use in a plasma display panel, wherein the [filler] glass powder comprises:

35% to 75% by mass of PbO,

0% to 50% by mass of B₂O₃,

8% to 30% by mass of SiO₂,

0% to 10% by mass of Al₂O₃,

0% to 10% by mass of ZnO,

0% to 10% by mass of at least one selected from the group consisting of CaO, MgO, SrO and BaO, and

0% to 6% by mass of at least one selected from the group consisting of SnO₂, TiO₂, and ZrO₂, and

the filler powder comprises:

10% to 90% by mass of a silica powder,

10% to 90% by mass of an alumina powder, and

0% to 40% by mass of a titanium oxide powder, and the silica powder comprising[:]

25% to 75% by mas of an α -quartz powder and/or a cristobalite powder, and

25% to 75% by mass of a quartz glass powder.